

Munz (1959 *op. cit.*) described the California range of *Oenothera alyssoides* Hook. & Arn. var. *villosa* S. Watson as "Kingston and Panamint mts. in Inyo Co. to Lassen Co.," and in 1974 (*op. cit.*) reported it from "the Victorville region." We have seen no *C. boothii* ssp. *alyssoides* material from the desert mountains; plants from that region are now placed in *Camissonia boothii* ssp. *intermedia*. Munz's report of *C. boothii* ssp. *alyssoides* near Victorville was evidently based only on the mis-annotated Pierson specimen. The only California *C. boothii* ssp. *alyssoides* material we have seen was collected from the Modoc Plateau: two specimens from Lassen County (*M. E. Jones s.n.* RSA [23 June 1897]; *P. A. Munz 11869* RSA) and one from Modoc County (*B. Bartholomew & B. Anderson 4812* RSA). Thus, we concur with Wagner's (1993 *op. cit.*) description of *C. boothii* ssp. *alyssoides*'s California distribution being limited to the Modoc Plateau.

All three subspecies have rarely been collected in California. The Modoc Plateau *Camissonia boothii* ssp. *alyssoides* occurrences, Inyo County and desert mountain occurrences of *C. boothii* ssp. *intermedia*, and Mono Lake *C. boothii* ssp. *boothii* occurrences are all within narrowly defined geographic regions at the western margins of their respective wider distributions in the Great Basin. The southern Mojave Desert plants may be a unique long-disjunct population, or may occur infrequently farther north as suggested by the Little Lake specimen. We conclude that they are best ascribed to *C. boothii* ssp. *boothii*, but their capsule morphology suggests introgression with *C. boothii* ssp. *intermedia*. Clearly, they are not *C. boothii* ssp. *alyssoides*. Twenty six years ago, Raven (*op. cit.*) wrote that

Plants of this sort have not been collected in these areas for nearly 40 years. The relationship of these populations to other subspecies should be investigated when additional material becomes available.

We agree, and particularly recommend late-season searches of sandy washes on desert-facing slopes of the southern Sierra Nevada, Tehachapi, and San Gabriel Mountains to further define their distribution.

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*PHYTOLACCA ICOSANDRA* L. (PHYTOLACCACEAE): NEW TO THE CONTINENTAL UNITED STATES.—Victor W. Steinmann, Rancho Santa Ana Botanic Garden, 1500 N. College Ave., Claremont, California 91711.

*Phytolacca icosandra* L. [= *Phytolacca octandra* L.] (Phytolaccaceae) is a ruderal species previously known from northern México to northern South America; it has also become widely naturalized in the Old World tropics (Nowicke, *Annals of the Missouri Botanical Garden* 55:294–364, 1968). Like other members of the genus *Phytolacca*, it is most frequently encountered in disturbed sites. In December of 1990 a collection of *P. icosandra* was made in the Santa Catalina Mountains of Pima County, Arizona. The plants were restricted to recently burned chaparral in a remote area of Romero Canyon at 1480 to 1800 meters. An examination of specimens at the University of Arizona Herbarium (ARIZ) revealed two misidentified collections made over 50 years ago from the Chiricahua Mountains of Cochise County, Arizona, that are also of this species (see cited specimens). While *P. icosandra* is introduced in many areas, this does not seem to be the case in Arizona. Instead, it appears to be a rare native taxon.

Plants of this species are short-lived perennials characteristic of early successional areas (Floyd, *Australian Forestry* 39:210–220, 1976). Scarification or high temperature is necessary to break the seed coat and allow permeability to water and/or gas. Floyd (*Australian Journal of Botany* 14:143–156, 1966) found that *Phytolacca* seeds had very poor germination unless heated but were able to remain dormant in the soil until this takes place. In a study of a closely related species, *P. rivinoides* Kunth &

Bouché, in Costa Rica, the seeds were found to remain dormant in the soil until a gap was formed in the canopy (Murray, *Ecological Monographs* 58(4):271–298, 1988). In addition, an experiment with *P. americana* L., another closely related taxon, showed that seeds buried in the soil for 39 years had a germination rate of 86%; this was 12% higher than seeds buried for a single year (Toole, *Journal Agricultural Research* 72:201–210, 1946).

It is well known that chaparral is a fire-dependent plant community. In southeastern Arizona this community is mostly confined to the Coronado National Forest, a series of disjunct, sky-island forests surrounded by desert and grassland habitats. In the Santa Catalina Mountains, lightning-initiated fires are frequent during the summer rainy season, and such fires are recognized as part of the natural environment (Whittaker & Niering, *Ecology* 46:429–452, 1965).

The Santa Catalina Mountains, located north of the city of Tucson, are heavily used for recreation. However, the ruggedness of the terrain, characterized by rock escarpments and steep slopes, makes many areas accessible only with great difficulty. Although crossed with trails, the range has few roads and there remain large expanses of isolated, pristine areas. It was in such an area that *P. icosandra* was encountered. The population consisted of about two dozen individuals restricted to a single ridge 300–620 m above the nearest trail and more than 4 km (airline) from the nearest road.

*Phytolacca* berries are relished by birds, and whether southeastern Arizona's isolated outposts are the result of bird dispersal from populations to the south or whether they represent relicts of a once more northerly distribution is uncertain. In my opinion, human introduction can be ruled out because of the isolation of the plants in the Santa Catalina Mountains, and because of the specimens collected more than 50 years ago from a population disjunct more than 100 km in the Chiricahua Mountains. The otherwise nearest record of this species is from Sonora, México, approximately 100 km south of the Arizona border (see cited specimens), and it is widespread in Sonora and much of México. The fourteen dominant plants in the chaparral of the Santa Catalina Mountains are all northern extensions of predominantly Mexican species (Shreve, *Carnegie Institute Publication* 217:1–112, 1915). *Phytolacca icosandra* is surely not out-of-place in this community.

#### SPECIMENS CITED

USA, Arizona, Cochise County, Chiricahua National Monument, Bonita Canyon, 12 Aug 1939, *Clark 8569* (ARIZ); Cochise County, Chiricahua Mountains, Chiricahua National Monument, 1850 m, 19 Oct 1940, *Darrow s.n.* (ARIZ); Pima County, Santa Catalina Mountains, Romero Canyon, burned area, 1525 m, 15 Dec 1990, *Steinmann 229* (ARIZ). MEXICO, Sonora, region of the Río Bavispe, Rancho Cruz Díaz, pine zone, 7 Aug 1940, *Phillips 427* (GH).

I am indebted to R.S. Felger, A. Harlan, P.S. Martin, L.A. McDade, T.S. Ross, T.R. Van Devender, and R.K. Wilson who all provided numerous useful comments. For access to their collections I thank the curators and staffs at ARIZ and GH.

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ABSENCE OF NASCENT INFLORESCENCES IN *ARCTOSTAPHYLOS PRINGLEI*.—Jon E. Keeley, Department of Biology, Occidental College, Los Angeles, CA 90041.

One of the defining characteristics of *Arctostaphylos* (manzanitas) is the production of inflorescences in the spring or summer, six to eight months prior to flowering (Fig. 1). Jepson (*Erythra* 8:97–99, 1938) was the first to point out this phenomenon and he coined the term “embryonic panicles” to describe this dormant stage in flowering. Later students of *Arctostaphylos* have replaced this with the term “nascent” inflorescence; defined as inflorescences “developing or coming into existence.”

Jepson was particularly taken with these structures because he noted that, although